

Claims

1. Apparatus for mixing and maintaining particulates in liquid suspension, the apparatus comprising a reservoir for holding a fluid containing dispersed particles, the reservoir having an open top, side walls, end walls and a base;
5 a substantially horizontally-disposed mixing plate mounted inside the reservoir, the mixing plate having a plurality of vertical holes extending through the plate; and means for raising and lowering the mixing plate relative to the reservoir.
- 10 2. Apparatus as claimed in claim 1 wherein the reservoir further comprises means for adding samples in liquid suspension to the reservoir by means of a reagent feed pipe and means for removal or re-circulation of unused liquids from the reservoir by means of an overflow pipe.
- 15 3. Apparatus as claimed in claims 1 or 2 wherein the mixing plate contains an array of holes extending through the plate, the holes being in fixed relationship one with another.
- 20 4. Apparatus as claimed in claim 3 wherein the mixing plate contains an array of 24-, 96- or 384-holes.
5. Apparatus as claimed in any of claims 1-4 wherein the means for raising and lowering the mixing plate inside the reservoir comprises at least
25 one piston in contact with the outer casing of the apparatus and operatively connected to an air supply.
6. Apparatus as claimed in any of claims 1-4 wherein the means for raising and lowering the mixing plate inside the reservoir comprises a toothed
30 drive wheel into which is set an eccentric peg which engages a slot in the

outer casing of the apparatus, the drive wheel being driven through a gear train and drive shaft by electric servo drive motor.

7. A method for mixing and maintaining particulate materials in liquid suspension, using the apparatus according to any one of claims 1-6, the method comprising the steps of introducing a liquid suspension of particulate materials to the mixing chamber reservoir, actuating the mixing plate inside the reservoir so as to mix and maintain the particulate materials in liquid suspension.

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8. The method as claimed in claim 7 wherein the particulate materials are selected from cells (eukaryotic cells, prokaryotic cells), viral particles, glass beads, scintillant beads (PVT, polystyrene, yttrium silicate, yttrium oxide), magnetic latex beads, chromatography media, and controlled pore glass beads.

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